Nike Hercules Missile Battery Summit Site
Anchorage Division
Anchorage
Alaska

HAER NO. AK-18

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

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HISTORIC AMERICAN ENGINEERING RECORD

NIKE HERCULES MISSILE BATTERY SUMMIT SITE
HAER NO. AK. -18

Location: Summit Site on Mt. Gordon Lyon near Anchorage, Alaska.

Date of Construction: 1957-1959

Present Owner: U.S. Army

Present Use: Inactivated in July, 1979. Currently in disuse.

Significance: The Summit Site Nike Hercules Missile Battery on Mt. Gordon Lyon near Anchorage, Alaska represents the ground to air defense system employed during the first two decades following World War II. The site is significant as the representative of the technology employed and the engineering feat accomplished in the construction of this and other Nike Hercules sites within Alaska.

Historian: D. Colt Denfield, U.S. Army Corps of Engineers, Alaska District, January 1987.

Towards the end of World War II it became apparent that the oceans were no longer effective moats at our ramparts. Advances in aircraft capabilities to fly faster, higher, and further outstripped conventional artillery guarding the United States. Army Ordnance, recognizing the growing vulnerability in 1944, began studies on new air defense weapons. A guided missile system that could intercept and destroy attacking aircraft before they could reach the target area was agreed upon as the ground based air defense weapon of the future. Soon after the war and the acquisition of the atomic bomb by the Soviet Union, it became critical that a 100 percent effective ground based air defense be realized. One aircraft breaking through the defense could, with one atomic bomb, destroy the area.

A research and development program for a guided missile air defense system was launched in February 1945. The prime contractor selected for the project was Western Electric with Douglas Aircraft, a subcontractor, responsible for the airframe development. Together they would manufacture a missile system which would be named Nike for the winged Goddess of Victory of Greek mythology. The project was proceeding at a normal pace until the discovery of Soviet atomic capabilities and the erection of the Berlin Blockade in 1949 forced the acceleration of the program. After the North Korean invasion of South Korea in 1950, the project received even higher priority. Under the accelerated program a missile, dubbed Nike I, was ready for test firing by November 1951. In the initial test Nike I intercepted and destroyed a drone target.

By January 1953 the Nike I guided missile system was ready for system testing with contractor tests held from January to May. Succeeding in the tests, the system was determined ready for Army testing and a prototype battery delivered to the White Sands Proving Ground, New Mexico, on May 15, 1953. In October of 1953 Nike I was turned over to tactical Army troops for service evaluation tests at Redstone Arsenal, Alabama; Fort Bliss, Texas; and White Sands Proving Ground. Nike I (renamed Nike Ajax in November 1956) performed well in service tests requiring no major design changes.

Conversion of the air defenses of the United States from conventional artillery, that required up to 600 rounds to destroy an aircraft, to more effective guided missiles began in December 1953 with a Nike Ajax battalion emplaced at Fort Meade, Maryland a part of the Washington-Baltimore defense area (Binder, 1986). Within three years, Nike Ajax units outnumbered conventional artillery. Conversion from conventional artillery to missiles in the continental United States completed by July 1958. (USATHMA, 1983:2-1)

The Nike Ajax missile was 10.8 meters long with a 141. 94 kg payload in three warheads. The missile had a range of 40 kms. and a ceiling of about 18 kms.. "Nike Ajax was a two-stage, supersonic missile armed with three large-radius, spherical-burst, high explosive warheads mounted in the nose, center and aft sections of the missile.

The first stage was powered by a solid-propellant booster. The initial booster design included a cluster of four solid-propellant rockets with large fins. At the production stage, however, the design was modified to provide more rapid guidance response by means of a single, small-finned booster. In the second stage, the missile was powered by a liquid-fueled sustainer motor. The missile itself displayed three sets of cross-shaped fins in addition to those on the booster. The forward set was for steerage, the middle set may have been used for sensing, while the rear set provided stability." (USATHMA, 1983:5-1)

The Nike Ajax system was designed to have mobile capability, employing trailers for the various components, but in actual operational status it was a fixed system with radar controls housed in trailers. At the launch section, launch control was also in a trailer with the missiles either underground or above ground.

Even as Nike Ajax was being deployed, its limitations forced continued research and development of a second generation of Nike. In 1953 the development of Nike missile with a greater range, a higher ceiling and more powerful warhead was underway. This second generation system was called Nike B and was ready for initial tests in 1957. It was renamed Nike Hercules after the figure in Greek and Roman mythology know for feats of strength. Beginning in June 1958, while testing and system improvements were underway, Hercules was deployed.

The Hercules was larger and more powerful than Ajax with nuclear capabilities. A Hercules missile measured 11.9 meters in length with a range of 120-128 kms. and a ceiling of 56 kms.. Hercules "kill" ratio over Ajax was similar enough that Hercules could be installed at existing Ajax batteries.

Between 1958 and 1961 many Nike Ajax batteries were converted to Hercules and those not upgraded were closed. The conversion to Hercules was completed by 1964. Beginning in 1962, some Hercules were transferred to National Guard units. The Hercules conversions had hardly been completed when deactivation began at numerous locations. By 1970 the Army had deactivated most CONUS Hercules sites. Regular Army and National Guard units continued to maintain a number of sites until the mid-1970's and a few sites, including those in Alaska, were maintained until the late 1970's.

Nike Ajax was not deployed in Alaska. The air bases at Anchorage and Fairbanks continued to be defended by 90 mm and 120 mm antiaircraft guns. In 1955 planning and study was initiated to determine on new defenses and it was decided to emplace the Nike Hercules system, which was then under development and expected to be on line in time for Alaskan deployment. The Alaska District Army Corps of Engineers conducted land surveys in 1955-1956 for Nike emplacements and begin acquisition of sites in 1956. Land for sites Bay, Peter, Mike, Jig and Tare were acquired under Public Lands Order 1345 on October 23, 1956. The other properties for the remaining sites, except Love, were obtained at the same time. Site Love, which was the last one to be constructed, was obtained under Public Land Order 1641 on May 22, 1958. The two complexes to be defended were the Fairbanks area with Ladd and Eielson Air Force Bases and Anchorage with Elmendorf Air Force Base and Fort Richardson.

> " Invitations to bid on construction of Alaska's portion of the current nationwide missile defense program was issued in March, 1957. On April 5 the District awarded a contract to Peter Kiewit Sons Company for construction of four sites in the Fairbanks area that ultimately (with 36 modifications) cost $ 12,771.00. On the same day another contract was awarded to the joint venture Patti-McDonald and M-B Contracting Company that (with 33 modifications) cost about $10 million. This group had three sites built in the Anchorage area; one of which, Site Point near Anchorage International Airport, was to be a double firing battery. 14 months later B-E-C-K Constructors received a contract build a fifth site which cost $3,033,000.00 to build a fifth site in the Fairbanks area. Before this stage of affairs the District had contracted in August 1956 to obtain Nike missile carriage mechanisms for both complexes costing $1.4 million. Another preparatory step was its $1,423,000 contract of March 1957 for special antenna covers needed at both complexes." (Woodman, 1976:54-55)

The Department of Army announced in November 1958 that the Alaska batteries would become operational in 1959. The first battery to be declared operational was Site Bay in Anchorage, which assumed tactical duties on March 20,1959. Site Bay was followed by the rest of the Anchorage batteries and then the Fairbanks batteries in May 1959.

The Anchorage defenses were designated the 4th Missile Battalion, 43d Artillery (redesignated the 1st Battalion, 34d in 1972) while Fairbanks became the 2d Missile Battalion, 562d Artillery.

Site Summit at an elevation of 1,185 meters was the most difficult Nike battery to construct. "Much blasting had to be done to build the long, curving access road and to level the radar and missile launch areas on the rocky ridges. Persistent high winds, early snow that stayed long, and frequent clouding of the road leading to the work location were delaying factors. Concrete installation at all sites had to be at extremely close tolerances to unsure accuracy of the sensitive equipment functioning within them." (Woodman, 1976: 55) Construction of Site Summit was begun May 1957 and completed in September 1958. The equipment had arrived by February 1959 and the battery declared operational in May 1959.

During its service, Site Summit on Mount Gordon Lyon would experience its coldest night with a temperature of -45 C in February 1969. The mountain top site would also experience maximum winds of 260 kph.. The Nike batteries in Fairbanks would not experience such high winds but did experience even colder temperatures.

The launch and battery control areas of Battery A, Site Tare, of the Ladd-Eielson Air Force Bases defense were located 20 kilometers south of east of Fairbanks adjacent to the Richardson Highway. Its location relative to the highway has been altered since the 1968 construction of the Chena River Lakes Recreation Area. In 1986 the launch area was about two kilometers north of the Richardson Highway at the end of Laurence Road. The battery control area on top of Moose Creek Bluff at 245 meters elevation must now be reached by a grade off the Richardson Highway where before the road led directly from the launch area to the battery control.

Site Jig (Battery D) of the Ladd-Eielson defense region was 52 kilometers south of east of Fairbanks also adjacent to the Richardson Highway. Both the battery control and launch areas were sited on a bluff on the east side of the highway. To reach the site one travelled east on Johnson Road about three kilometers to Site Road and then south to a `T' with the battery control area to the west and the launch to the east. The distance between the launch and the battery control was 2.5 kilometers.

Sites Peter (Battery B) and Mike (Battery C) located in the Yukon Command Training Site in the hills behind Eielson Air Force Base were reached by road from Eielson Air Force Base. The distance between the launch and battery control was 1.3 kilometers at Site Peter and 1.6 kilometers at Site Mike.

The final Fairbanks Nike site was Site Love (Battery E) located 18 kilometers west of north of Fairbanks along Murphy Dome

Road. Murphy Dome Road was reached from Fairbanks via the Elliott Highway. The site was west on Murphy Dome Road about 15 kilometers. The launch and battery control areas were emplaced on two separate hills at about 275 meters elevation.

The three Anchorage batteries were situated in an arc north of the city. Site Summit on top of Mount Gordon Lyon had the most impressive setting with a commanding view of Anchorage and the remaining Chugach Mountains. The battery control area occupied the very top of the 1,185 meter mountain with the launch area carved out of the mountain below the battery control. The climb to both areas was often a challenge when the winding road was covered with snow or ice. From the Arctic Valley exit off the Glenn Highway, it is about 12 kilometers via the Arctic Valley Road to the Nike Battery site.

The dual battery of Site Point was located on Point Campbell on the south side of the Anchorage International Airport. The launch area, with four missile launch and storage structures, was on the west side of the point at an elevation of 55 meters. The battery control area was north of east of the launch area at 82 meters elevation. (The operation of the Nike Hercules required that the battery control and launch areas be within line of sight to allow the locking of the missile tracking radar onto the missile before firing.) Access to Site Point from Anchorage was possible from Raspberry/ACS Road to the main gate.

Site Bay (Battery C) was built at the site of a World War II dispersal air field at Goose Bay. The Nike battery was reached by Knik Road with the battery control area near the World War II runway and the launch area sited 1.6 kilometers west of the battery control. From the junction of Knik Road and the Parks Highway in Wasilla it is 35 kilometers to the battery control area.

There were only minor deviations, usually the result of terrain, in the site plans of each of the Alaska Nike installations. There were three main buildings at each battery control area : an operations building that included the target tracking and missile tracking radars, the barracks and living facilities for the enlisted men, and a Hi-Par (acquisition radar) building with radar tower and motor repair shop. There was also a guard house and security fencing.

Located about one to three kilometers from the battery control area of each site was the launch area. The two areas were connected by road. Alongside this road was a magazine for high explosives and guided missiles.

The facilities for the assembly, maintenance and launching of the Nike Hercules missiles were within the launch area. Structures included two missile launch and storage structures, launch control and general operations building, missile maintenance shop, motor repair shop, fuse and detonator magazine, warhead building and a dog kennel. This area was protected by a double fence, an alarm intrusion system, two sentry stations and two guard towers.

The total construction cost of Site Bay in 1958 was $4,702,500 which was representative of the costs of other batteries. The structures, their size and cost of construction are shown in Table 3. In addition to the structures, there was other necessary construction including helicopter landing pads, communication lines, sewer and water lines, drain pipes, culverts, utilidors, roads, sidewalks and a flagpole at each battery control that cost $3,000 each.

In CONUS, as well as Alaska, the development of Nike brought back to life many former coastal or other artillery battalions. The 43d Air Defense Artillery in Anchorage traced its linage back to August 14, 1901 and the founding of the 107th Company of the Coast Artillery Corps. In 1918 the 107th was redesignated Battery E of the 43d Artillery and on August 4, 1918 organized at Haussimont, France. Returning to the United States after World War I, it was inactivated on August 17, 1921 at Camp Eustis, Virginia. Three years later on February 20, 1957, it was redesignated Battery E, 43d Coast Artillery.

During World War II the 43d earned 11 campaign streamers to add to the tree earned for World War I campaigns. Following distinguished World War II service, the 43d was disbanded on June 14, 1944.

The 43d was reconstituted on June 28, 1950 in the Regular Army and broken up into various units with the 1st Battalion consolidated with the 43d Field Artillery Battalion, an element of the 8th Infantry Division. The 2d Battalion became a part of the 1st Calvary Division and the 3d Battalion an element of the 25th Infantry Division. During the Korean War, another 10 campaign streamers would be credited to the 43d. The unit was again deactivated on February 1, 1957.

On August 12, 1958 it was redesignated as Headquarters, 1st Battalion, 43d Artillery and activated at Fairchild AFB, Washington. In 1958-59 the 43d artillery was reorganized under the Combat Arms Regimental System with the 1st Missile Battalion assigned to Fort Richardson in 1959. The 1st Battalion was redesignated the 4th Battalion in September 1971 and then only a

year later redesignated the 1st Battalion, 43d Air Defense Artillery.

Throughout its service in Alaska, until its inactivation on July 31, 1979 at Fort Richardson, the battalion worked to fulfill its motto of "Sustinemus" or "We Support". The 1st Battalion, 43d ADA was again activated on May 1, 1982 at Fort Bliss, Texas. (McKenney, 1985)

The 2d Battalion of the 562d Air Defense Artillery assigned to the Fairbanks area batteries traced its linage back to September 5, 1928 and the formation of Battery B, 562d Coast Artillery of the Organized Reserves. In 1928 the battery was redesignated as Battery B, 917th Coastal Artillery until its inactivation and reassignment to the regular Army on October 1, 1933. The Regular Army redesignated and activated the unit as Battery B, 70th Coast Artillery at Fort Monroe, Virginia on November 4, 1939.

In World War II the battery was credited for campaign service in the Northern Solomons, Bismarck Archipelago, Lezte and Luzon. In November 1943, the battery was reorganized and redesignated as Battery B, 70th Antiaircraft Artillery Gun Battalion. Battery B would be inactivated in 1947 and activated January 15, 1949. For service in Korea eight campaign streamers were awarded. Battery B was again inactivated December 20, 1957.

The battery was redesignated on August 5, 1958 as Headquarters Battery, 2d Gun Battalion, 562d Artillery and activated September 15, 1958 in Alaska. The next May 15th it was reorganized and redesignated the 2d Missile Battalion, 562d Artillery. On March 31, 1968 it became the 2d Battalion, 562d Artillery and remained that until inactivation at Fort Wainwright on June 30, 1971.

Nike soldiers would discover that Alaskan Nike bases were different then CONUS sites. The layout, design, and construction of Alaskan sites in response to the cold weather required some design modifications. Rather than dividing the sites into three areas of battery control, launch and housing as was the case at some CONUS sites, Alaska sites were divided into battery control and launch with housing at the battery control. The facilities at battery control were consolidated into composite structure that included housing, dining area, PX, barber shop, dispensary, and tactical radar facilities.

The battery control at each Anchorage site was linked by microwave to an aircraft control center on Fire Island. Fairbanks sites were linked to a control center at Murphy Dome. Maintenance shops were located off-site at Fort Richardson and Ladd Air Force Base. Additionally, NCO's and officers lived in base housing at

Anchorage and Fairbanks. For awhile, personnel stationed at Site Summit and Site Bay were flown by helicopter to work from Fort Richardson.

The extreme weather confronting the Alaska District Army Corps of Engineers in deploying Hercules Missiles required innovative designs for the tactical as well as the housing and support facilities. The standard Hercules would have to operate in temperatures as cold as -60 C plus winds and icing conditions.

Special protection from icing was required if the radars were to operate properly. Mechanical radar covers of welded steel stressed-skin construction that permitted periodic de-icing and sheltered maintenance were specially designed. The radars attached to the composite buildings were heated to de-ice the radars and the operating mechanisms.

The launch facilities also required innovation to cope with permafrost as well as ice and snow build-up. The above ground rivetted launch structure avoided the difficulties of construction of underground facilities in permafrost. The snow and ice build-up on the launch pads was controlled by heating elements in the concrete apron.

Each launch area of an Alaskan Battery included two launch buildings with two satellite launchers and two carriage launchers on an apron of the storage/launch structure. The launch was fed by the carriage launcher (transport trailer) driven by a cable housed in a tunnel beneath the apron that fed the missiles to the launchers. The launch transport elements were automatically coordinated but had manual overdrive.

Inside the two launch structures a "system of missile racks were installed (for missile storage). An overhead crane in the building is provided for joining the booster assemblies to the missiles. Missiles and boosters are brought into the launch section on transporter trailers and are rolled on dollies over the tracks to the carriage. They are brought into the structure on a carriage and moved on to storage racks. For firing, the ready missiles are rolled onto the carriage from the racks, and moved either to the firing position, or to the satellite launcher, the carriage being brought back inside to receive another ready missile." (Smith, 1980:109)

Nike batteries in Alaska were among the last in the United States to be deactivated. During their service, their role within the Alaskan Command in the defense of Alaska was summarized in an information bulletin prepared by the USARAL Air Defense Artillery Group Headquarters.

"The Alaskan Command, one of seven unified military commands in the United States Defense Establishment, guards the polar gateway to the heartland of the USA. Established in 1947 by Joint Chiefs of Staff, the Alaska Command welds Army, Navy, Air Force, and Marine Corps men into a unified defense team.

Alaskan Command Headquarters is located at Elmendorf Air Force Base adjacent to Anchorage. It is comprised of a relatively small and compact joint staff from three services: U.S.Army, Alaska (USARAL); Alaskan Sea Frontier (ALSEAFRON); and Alaskan Air Command (AAC) are the major components of the unified command. Also located at Elmendorf Air Force Base is another joint organization, Headquarters, Alaskan North American Air Defense (NORAD)/Continental Air Defense (CONAD) Region, established in 1961. The forces and weapons operationally employed by the region for the joint air defense of Alaska are provided by the supporting commands, USARAL and AACX, as directed by the Commander-in-Chief, Alaska, who serves in a dual capacity as Region Commander. USARAL provides Nike-Hercules missile unites and AAC provides fighter-interceptors along with necessary Aircraft Control Warning Squadrons. The joint staff for this operation is provided from the two services by officers, for the most part, performing a dual capacity.

USARAL, with headquarters at Fort Richardson, is organized around to principal tactical forces - two independent infantry brigades (mechanized) for the conduct of ground defense and an air defense artillery group to participate in the joint air defense. Forces are distributed north and south of the Alaska Range to accomplish the missions assigned the command.

The tactical force for air defense consisting of two Nike-Hercules missile battalions comes under the command of USARAL Air Defense Artillery Group, a major subordinate command of USARAL with headquarters at Fort Richardson. One missile battalion has its headquarters at Fort Richardson and the other at Fort Wainwright.

The USARAL Air Defense Artillery Group is in the instrumentality though which the Commanding General, USARAL, discharges his responsibilities for USARAL participation in the active air defense of Alaska. The group command includes all USARAL air defense artillery organizations and all USARAL organizations charged with the direct support maintenance of mission equipment. Thus, all personnel assigned to USARAL whose primary job is active air defense or the direct support maintenance thereof are in the group organization and conversely the sole mission of the group is air defense with the exception that the missile units have surface-to-surface capability which may be used in support of ground combat operations if released from the air

defense role. To be effective modern air defense weapons systems must be closely coordinated and integrated into one cohesive force. This is a most difficult task and can be accomplished only through having a single line of operational control for all air defense weapons systems in Alaska, the Nike-Hercules units from USARAL and the fighter-interceptor from AAC.

The group participates in active air defense of Alaska in accordance with the air defense plans of Alaska NORAD/CONAD Region and provides surface-to-air missile defense of Fairbanks-Eielson AFB-Fort Wainwright and the Anchorage-Elmendorf AFB-Fort Richardson complexes. In the northern complex, defense is provided by its assigned 166th Ordnance Company (GM) (DS) (NIKE). In the southern complex, defense is provided by the four missile direct support maintenance provided by its assigned 524th Ordnance Company (GM) (DS) (NIKE). The direct support companies perform ordnance, engineer, and signal direct support maintenance; maintain, repair, and inspect mission equipment; provide emergency support when required and organization maintenance supply support.

The battle station for the group headquarters is the Alaskan NORAD/CONAD Region Combat Center at Elmendorf AFB. The Combat Center is the nerve center for the joint air defense of Alaska from which the air battle is supervised. All group officers and warrant officers serve on the Region Battle Staff or in the Battle Staff Support Center. It is here that the overall coordination of the integrated use of fighter-interceptors and surface-to-air missiles is accomplished and operational control is exercised. The individual missile fire units are operationally controlled directly though an Army Air Defense Command Post by a NORAD Control Center located in each complex and subordinate to the Region Combat Center. To further integrate the effort, the group commander is in a dual capacity the deputy commander of the region, and the battalions commanders are designated as the Army Air Defense Commander in each complex and members of the respective NORAD Control Center Battle Staff." (USARAL, 1966)

For the missilemen at the isolated Nike Sites, the organization of air defense of Alaska or CONUS did not have as much impact as surviving and adjusting to duty at these remote sites.

The sites were so remote that during the long winter the highlight of each week, according to one former soldier, was the weekly bingo game brought to each of the sites by a Special Services recreation specialist. The first special services worker for the Fairbanks sites was a Barbara Dowd, who arrived in March 1959 as the batteries were busily working towards operational readiness.

While the winters were long and dark, the summers provided many recreational opportunities for those inclined to outdoor activities. There were nearby lakes and streams for fishing. There was also a regular 2-1/2 ton truck service to the nearest base for trips to the PX and recreational facilities on base.

Duty at a Nike site was different than other Army assignment. Ken Sylvia, who arrived at Battery D (Site Jig) as it became operational, recalled in a recent Fort Wainwright newspaper the nature of work at a Nike Battery:

> Pride carried over into everything D Battery and the other batteries did. They took pride in winning the battalion's "Battery of the Month", "Mess Hall of the Month", yearly skills completion, or anything, Sylvia said. He especially remembered the efforts of the cooks at their remote mess hall: "They took real pride in their food, they always had excellent food."
>
> If he remembers the pride and good feeling of the unit, time hadn't dimmed the memories of the tiring duties.
>
> "I was the guy that pulled a lot of the `dirty alerts',he said. The batteries were divided between Fort Bliss-trained missile operators and soldiers, like Sylvia, assigned to help them.
>
> "The guys who made Spec. 4 were the guys who were specifically trained in missiles at Fort Bliss," the career PFC said. "The old `gunnery sergeants' didn't know anything about missiles; there was a lot of friction between them and the new (missile sergeants)," he said.
>
> Bliss-trained or not, everyone had guard duty, kitchen police, and alerts.
>
> The missile-launcher area where Sylvia worked was surrounded by two barbed wire feces. Two soldiers guarded the area. One manned the shack at the fence's entrance;
>
> the other roamed around the fences to check security. He remembered getting it every month for 24 hours.
>
> KP didn't bother Sylvia: "I liked KP - I guess I should have been a cook!" The self-contained mess hall requested his services about once a month, too, he said.
>
> Alerts occupied most of Sylvia's time, though. The four batteries that originally opened were on a rotating schedule:

One battery had to be able to fire a missile in 15 minutes. The soldiers remained on station.

Another of the four had to be ready to fire within an hour of being notified, he said. The "one hour" status allowed him and other launcher-area soldiers to travel to the "control area" but they couldn't go home.

The control area, about one-half mile from the launching area, contained the guidance radars, battery offices, sleeping quarters, unit store, post office and mess hall. This meant that Sylvia could eat his food hot in the mess hall and sleep in his bunk in the missile assembly building.

The final two batteries were on "three-hour" status. Their soldiers could go home.

Sylvia said he passed the hours spent at the battery by reading, cleaning and waiting for "practice missions" to be called.

A practice mission put the battery through the same steps that a real firing called for, he said. Sylvia's section mates would roll out four of the 10,000 pound Nike-Hercules missiles, point them skyward and prepare them for firing.

Everyone would retire to the concrete rooms where Sylvia waited. The control area group, using radar and a computer, would calculate the intercept course and order him to "fire" at the right moment.

If they weren't waiting for a practice mission, cleaning occupied their time. (Yukon Sentinel, Nov. 29 1985:4)

Not only were Alaska Nike sites unique in terms of design and remote duty but, of the United States sites, only in Alaska were there live missile firings from tactical missile installations. Elsewhere that batteries traveled to Fort Bliss, Texas for annual fire exercises.

The first live firing of the Hercules missile in Alaska occurred on December 16, 1959 from Battery B, 2nd Battalion, 562d Artillery near Eielson Air Force Base. The firing, which was scheduled for 1000 that day, was delayed five hours because of aircraft in the missile range and problems with the tracking radar. Leaving the launch apron at 1510, the missile climbed to 3,000 meters and self-destructed, disappointing the small group of

reporters and VIPS who had waited in a warming hut (author was present).

The next day a second missile was successfully fired at 1111 followed by another 14 Hercules missiles over the winter 1959-1960. Each battery fired two missiles from Battery B site completing their annual service practice by March 15, 1960.

Live firings at Fairbanks preceded by one year live firings at Site Summit above the more populated Anchorage. The first Hercules to leave the launch pad at Battery B, Site Summit, lifted off the snow covered mountain at 1414 on November 20, 1960. The missile, dubbed "Celebrity", intercepted its target (radar signal of an Air Force RB-57) above Mt. Witherspoon 120 kms from Site Summit. The missile exploded at an elevation of 12,100 meters destroying the target (tracking radar was programed to make the intercept at a predetermined distance from RB-57). A proud battery commander, Captain Erwin F. Tholl,Jr., reported to onlookers that the firing was 100 percent effective. (Douglas, 1961).

Addressing the assembled press, VIP's and other spectators, General J.H. "Iron Mike" Michaelis, Commander of the U.S.Army, Alaska told the crowd that the "live fire exercises were invaluable training in firing from actual combat sites and at the same time demonstrating to the citizens of Alaska and the nation the power of the this modern weapon." (Douglas,1961)

In later years missile firings were reduced to one missile per battery during the Annual Service Practice. The live firings each year were held at Site Peter (Fairbanks) and Site Summit (Anchorage). Ken Sylvia, cited above, recalls live firings from Battery C (Site Mike) but this has not been confirmed. Sylvia, in has account of life at a Fairbanks Nike Site, remembers the excitement of the live firings and the work into them:

> "Each battery sent a radar team of soldiers to the firing site a few weeks early, Sylvia said. The soldiers would assemble and test the missile, preparing it for firing.
>
> The radar and guidance controllers reported to the site on the big day to fire and guide the missile to the imaginary target.
>
> The missiles were fired east or north of Battery B's site into the Yukon Missile Range. This nearby 100-mile long stretch of mostly barren land was guarded by military pilots and radar to protect civilian aircraft pilots.

The firings attracted considerable coverage and were a source of pride to the units.

The Fairbanks community often was invited to attend the firings which were mentioned in Alaska Newspapers" (Yukon Sentinel, December 6, 1985:4)

The live firings from actual tactical sites was a great opportunity to see how the system would work under combat conditions. During the live firings of 1960-1961, problems with target tracking and acquisition radar, that had been distributed system wide, were clearly evident in Alaska. Contracts for a more powerful acquisition radar worth $4.3 million were issued in 1962 and 1963.

Ghemm Co., Inc. and Pacific General were the builders of the new Hi-Pars (High-power acquisition radar) in Alaska. "At each of the four sites. a 90-foot steel tower was erected, and on top was assembled a radar screen cover that looked like a huge golf ball. That white globe was formed from 275 sections of plastic bolted together in a geometric pattern like neatly cut orange peels. Construction radomes high above ground was hazardous when the wind blew... which was usually. " (Woodman, 1976:80)

Data concerning the termination of live firings is sparse so it is not certain when they were stopped. Population growth in Anchorage brought live firings to an end in 1964. Live firings continued from Battery B near Eielson until at least 1968 and possibly after that date. They could not have continued much longer since the Fairbanks batteries stood down in 1970. Sites Mike and Jig stood down in April, 1970 and were inactivated in June of that year. Sites Tare (A), Peter (B), and Love (E) stood down in April 1971 and were in activated in May 1971.

The Anchorage batteries continued in operation after the closing of the Fairbanks area Nike Sites. One battery of the double battery Site Point had been closed after being damaged by the earthquake of March 27, 1964 and was not returned to service, leaving only three fire units at Anchorage.

In 1972 a study was carried out to determine the cost effectiveness of transferring the Anchorage batteries to the National Guard but the study could not find sufficient cost savings to justify the transfer. The Anchorage batteries continued as Regular Army operations until their closing.

In March 1979 following a study of air defenses at Anchorage, which looked at air defense capabilities in the Anchorage area and

fiscal efficiency, it was decided that aircraft surveillance and control provided by the Air Force permitted the inactivation of the Anchorage batteries.

On May 10, 1979 soldiers at the three Anchorage batteries started the process of preparing the sites for deactivation which was completed on July 30, 1979. Unlike the Fairbanks sites, which had been abandoned and then subject to heavy theft and vandalism, the Anchorage installations were guarded. To guard Site Bay and Site Point, however, cost $212,509 a year. This expense came out of the limited Army operations and maintenance budget.

Finding new uses for the remote facilities was not easy. The buildings were neither energy efficient, nor suitable for many uses. Site Point was finally transferred to the Municipality of Anchorage in October 1982 for use as a City Park. Today it is Kincaid Park with skiing and walking trails. One launch structure has been converted into a warming hut but the other three were left vacant. The composite building and structures at the battery control area also within the park were demolished in June 1984.

At Site Bay the composite building and the battery control area were transferred to the State of Alaska in 1984 for use as a minimum security Correctional Center. The launch area was also transferred to the State. In November 1986 it was intact and in good condition with its future use presently undecided.

Site Summit on Fort Richardson military reservation was guarded until the summer of 1986. With the removal of military guards, vandalism has begun. The site is under consideration for demolition by the 5th Infantry Division (Light).

Even before the Fairbanks sites closed, people arrived expecting to remove usable materials. By 1984 the sites were reduced to little more than debris. Following a review Jig and Love were demolished under Defense Environmental Restoration Account (DERA) Program.

Prior to the cleanup of the former Nike Sites by the DERA program of the Alaska District Army Corps of Engineers the batteries were inspected and evaluated for historical significance. None of the sites under consideration for demolition were sufficiently intact to be preserved as examples of functional batteries. The batteries were heavily vandalized and the launch facilities were missing most of the launch equipment.

In consultation between the State Historic Preservation Officer and the Alaska District, documentation a Historic American Engineering Record (HAER) was deemed appropriate. A contract was

issued to Porath-Berry Architects of Anchorage in 1985 to prepare the architectural record.

When each site was visited in preparation for the HAER recordation a special attempt was made to locate and record any unit or personal reminders. The extensive vandalism and salvaging had stripped the batteries of all the small personal relics. A limited amount of artwork, however, was discovered.

Probably the most impressive artwork was found at Site Bay on the exterior wall of the composite building. It was a unit sign painted on the concrete block wall of the generator room. The sign was two crossed Hercules Missiles on an artillery red background. Above the crossed missiles was a yellow streamer with "Charlie Battery" lettered on it. Below the crossed missiles was another yellow streamer with "1st BN 43 A.D. ARTY". The 4.10 meter wide by 4.80 meter high painting was signed by a Mario M. Gonzales and D.L. McCheaky and dated July 5, 1978.

Mario Gonzales also painted the 43d ADA, Alaskan Command "Polar Bear", and the 172d Infantry Brigade and U.S.Forces Command unit patches in the Section B launch building (Building 1430) which have survived to the present time.

Two wall murals painted by F.L.Clark depicting Site Summit in the winter and White Sands Missile Range were observed in the Site Summit composite building in the battery control area. In the launch area, painted 172d Infantry Brigade, 34d A.D.A. unit and Alaskan Command "Polar Bear" patches were discovered in the missile launch and storage structures.

The launch structures at Site Point were not surveyed and the battery control structures had been removed prior to the project.

The Fairbanks sites were by 1985 ravaged by material scavenging and vandalism. Apart from memories little else was left. There was painted above a doorway at Site Jig "We Will Defend" from the motto of the 562d ADA, Tuebor, "I will defend."

Following the field surveys and initiation of the HAER recordation, cleanup work at three sites was contracted. In 1986 the battery control area at Site Jig was demolished as part of the development of the Chena River lakes Recreation Area. In 1986 the launch area structures at Site Tare were in use by the Chena River Lakes Recreation Area. Except for the two launch sections they are, however, scheduled for demotion in 1987. A survey of the existing Tare structures in 1986 failed to uncover any artwork or relics.

Sites Peter and Mike are within the Yukon Command Training Site under the control of Fort Wainwright. They were not inspected but are reported to be near rubble after years of being used as targets for explosives demolition training.

As this historical account is being compiled during the Christmas season of 1986 at Elmendorf Air Force Base, a bright star can be seen on Mt. Gordon Lyon. Few on base or in Anchorage realize that this star is a relic of Battery B. The idea for the star was that of Captain Douglas Evert, the Battery Commander, who in 1958 thought it would offer Anchorage a holiday symbol that would also let the folks know of the battery on this mountain high above the city. The enlisted men of the battery constructed a 4.5 meter star on the gate house.

> "However, the captain hadn't figured on the distance between the star and the post below. When the time came to light the star, it looked like one bright light to those watching below.
>
> The star stayed in place until 1960 when the men at Site Summit built a new (and much larger) star on a steep slope a quarter of a mile from the battery. Although the 1st Battalion gets credit for the star, an engineer company actually laid out the star and most of the construction was done by civilians.
>
> The new star had 400 50-watt bulbs placed about every four feet and the five-pointed 300-foot Christmas star could definitely be seen throughout the Anchorage Area. At first, an electrical overload caused the star to be dim and power to it had to be increased. The Star has shown brightly ever since." (Chugiak-Eagle River Star, December 19, 1985:18)

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TABLE 1

CONSTRUCTION AND INACTIVATION OF ALASKA NIKE SITES

Ladd* - Eielson Air Force Bases
Fairbanks

	BATTERY	BECAME OPERATIONAL	STAND DOWN	INACTIVATED
TARE	A	1959	April 1971	May 31, 1971
PETER	B	1959	April 1971	May 31, 1971
MIKE	C	1959	April 1970	June 30, 1970
JIG	D	1959	April 1970	June 30, 1970
LOVE	E	1960	April 1971	May 31, 1971
SUGAR	(Land acquired, never constructed)			
FOX	(Land acquired, never constructed)			

*Ladd Air Force Base was transferred to the Army on January 1, 1961 and renamed Fort Wainwright

Elmendorf Air Force Base - Fort Richardson
Anchorage

SUMMIT	B	May 1959	May 10, 1979	July 30, 1979
BAY	C	March 1959	May 10, 1979	July 30, 1979
POINT (Dual)		April 1959	May 10, 1979	July 30, 1979

TABLE 2

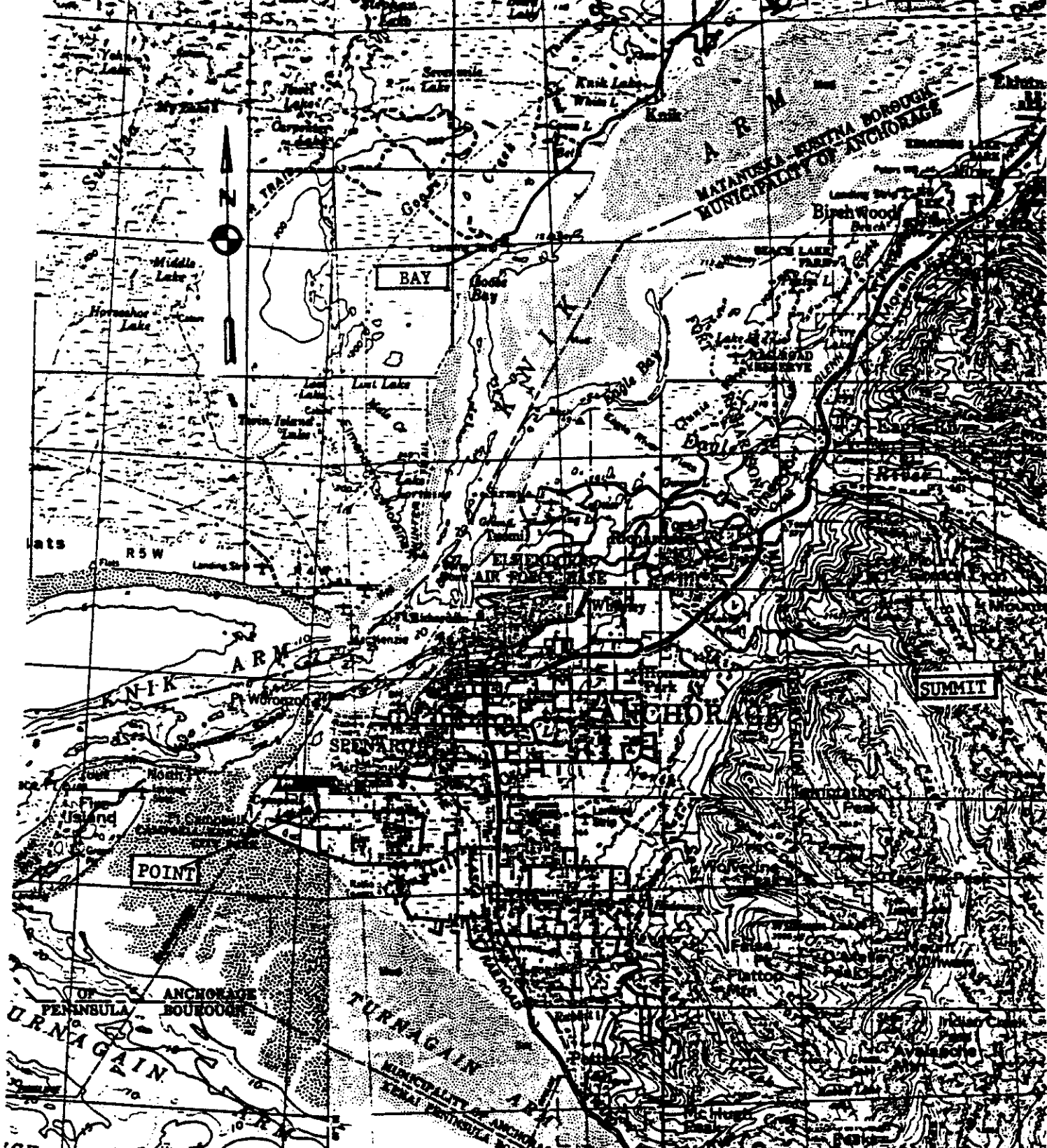
SITE	QUAD NAME + NUMBER	LOCATION TOWNSHIP MERIDIAN SECTION NO.	LATITUDE LONGITUDE
TARE	Fairbanks C-1	T7S - R3E FM	
PETER	Big Delta C-6	T3S - R5E FM Sec. 3,4,5,8,9	64-38-51 146-48-10
MIKE	Big Delta C-6	T4S - R5E FM Sec. 3,4,9,10	64-33-38 146-48-10
JIG	Big Delta C-6	T4S - R4E FM Sec. 28,29,32,33	64-34-31 146-52-12
LOVE	Fairbanks D-2	T2N - R2W FM Sec. 22 - 27	64-57-54 147-54-44
SUGAR	Fairbanks D-2	T1S - R1E FM Sec. 14,27,28,34	64-49-14 147-28-23
FOX	Fairbanks D-3	T1 & 2S - R2W FM Sec. 29 & 31	64-50-58 147-50-30
SUMMIT		T14N - R1W SM	
POINT	Tyonek A-1	T12N - R4W SM Sec. 5 - 6	61-09-09 150-02-16
BAY	Anchorage B-8	T15N - R3 & 4W SM	61-24-45 149-50-09

TABLE 3

CONSTRUCTION AT BATTERY CONTROL, SITE BAY

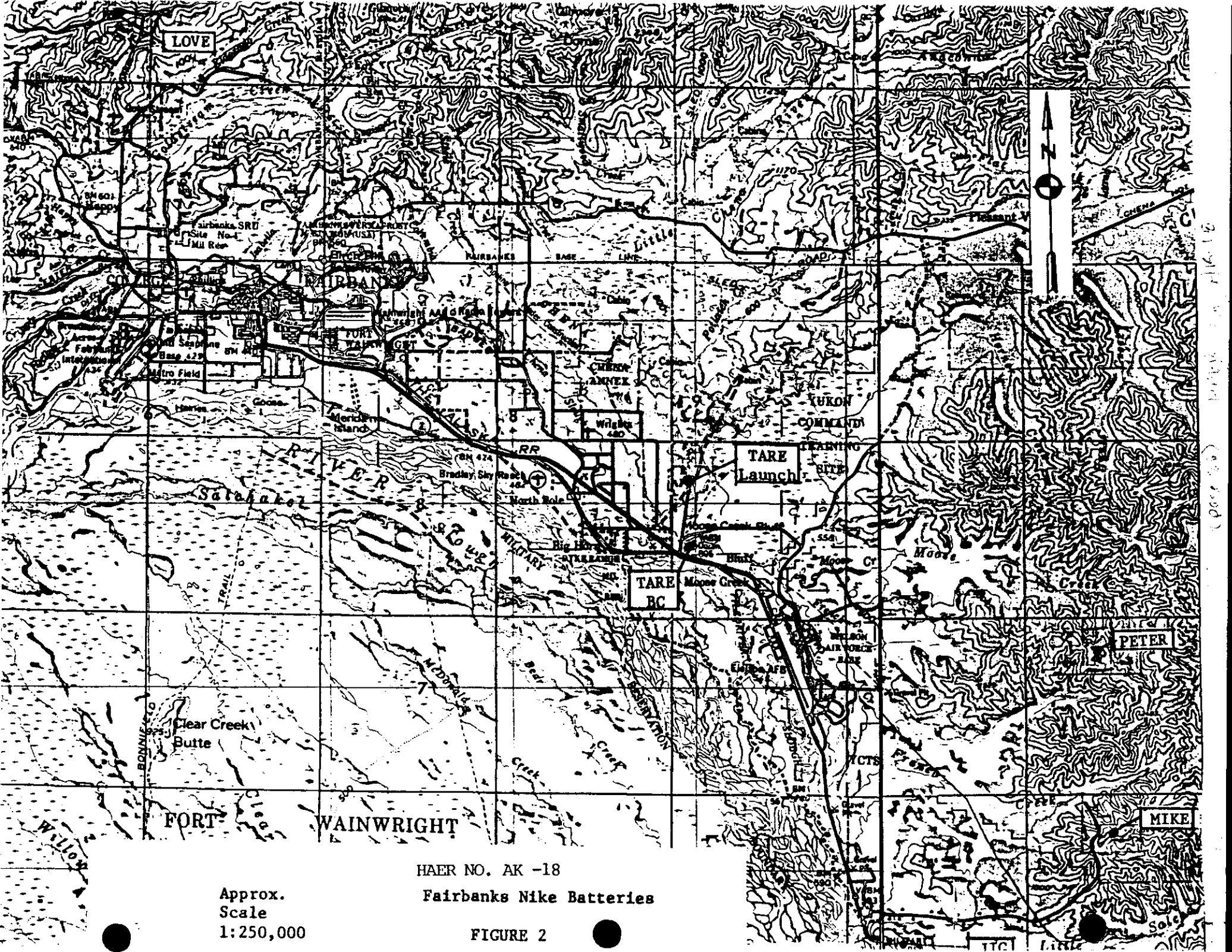
FACILITY NUMBER	OESCRIPTION	UNIT OF MEASURE	OATE OF CONSTRUCTION	COST
1400	E.M. Barracks, Radars, Oining Hall, PX, Operations	25,197 SF	1958	$1,940,000
	(2) Fuel Storage Tanks	40,000 Gal	1958	$ 185,000
1401	Hi Par Radar Bldg.	1,700 SF	1963	$ 154,100
1402	Water Pump Plant	53 SF	1958	$ 3,800
1403	Electrical Substation	160 SF	1958	$ 2,500
1406	Sentry Station	80 SF	1958	$ 5,000
1408	Motor Repair Shop	2,440 SF	1958	$ 104,600
1415	High Explosives Magazine	1,200 SF	1958	$ 90,800
1419	Guided Missile Magazine	800 SF	1958	$ 62,400
1421	Sentry Station	485 SF	1958	$ 3,500
1423	Electrical Substation	160 SF	1958	$ 27,000
1425	Launch Control & General Operations		1958	
1428	Motor Repair Shop	1,850 SF	1958	$ 12,900
1429	Guided Missile Maintenance	1,250 SF	1958	$ 64,900
1430	Missile Launch & Storage	9,901 SF	1958	$ 383,900
1431	Sentry Station	88 SF	1958	$ 5,800
1432	Fuse & Oetonator Magazine	16 SF	1958	$ 1,500
1439	Warhead Building	1,250 SF	1958	$ 81,000
1440	Missile Launch & Storage	9,901 SF	1958	$ 383,900
1424	Septic Tank Drain Field	6 KG	1958	$ 18,500

FACILITY NUMBER	OESCRIPTION	UNIT OF MEASURE	OATE OF CONSTRUCTION	COST
1422	Water Pump Plant	53 SF	1958	$ 3,800
1450	Guard Tower	144 SF	1958	$ 5,000
1451	Guard Tower	144 SF	1958	$ 5,000
	Dog Kennel	1,408 SF	1958	$ 3,700



Approx.
Scale
1:250,000

Anchorage Nike Batteries
HAER NO. AK - 18
FIGURE 1
page 23



HAER NO. AK -18

Approx. Scale 1:250,000

Fairbanks Nike Batteries

FIGURE 2